



**Operational Implications of
Pivots of Maneuver**

**A Monograph
by
Major Paul C. Jussel
Armor**

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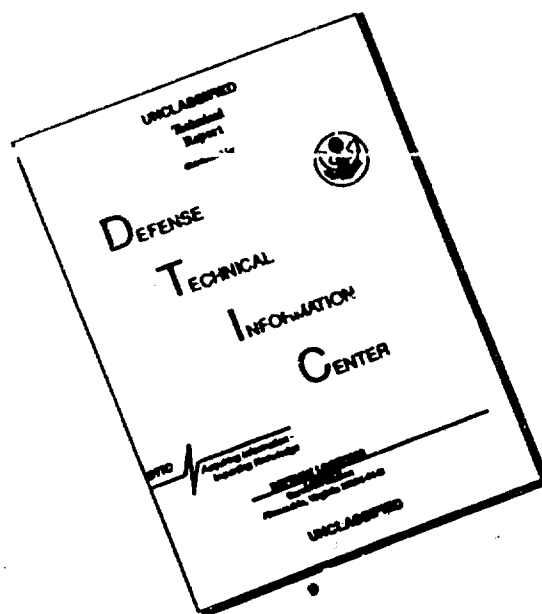
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ABSTRACT

OPERATIONAL IMPLICATIONS OF PIVOTS OF MANEUVER by MAJ Paul C. Jussel, USA, 44 pages.

This monograph examines the concept of pivots of maneuver from the operational perspective. Through an examination of the theories of Jomini, Clausewitz, Triandafillov, Fuller, and Tukhachevskiy five criteria are distilled that form the framework for the study. The criteria are the ability to gain freedom of operational maneuver, the ability to maintain that freedom, the connectivity of the pivots, the logistical structure centered on the pivots, and synchronization of joint forces around pivots.

The criteria are then examined through historical examples. A study of the Wilderness Campaign during the American Civil War is followed by a look at the British effort in *Operation Market-Garden* and the Allied reaction to the Ardennes Offensive in 1944, and finally MacArthur's operations at Inchon and Pusan during the Korean War. The historical examples flesh out the theoretical criteria which then are applied to the current doctrine and discussions generated by the US Army. Finally, future doctrine and concepts are examined in terms of current thought.

The monograph concludes that the concept of pivots of maneuver are useful to the operational planner. Doctrine and current thought admit the need for an effective framework for operational planning, but offer few specific guidelines. Also, doctrine produces few examples of effective operational orchestration. One way to organize and focus all forces within a theater is to establish operational objectives, determine pivots of maneuver to reach them, and orchestrate tactical forces towards their attainment. Careful operational planning will result in increasing momentum as pivots of maneuver are gained and forces continue on to set the conditions for victory.

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SECTION ONE - INTRODUCTION

"Rapidity is the essence of war."

Sun Tzu, 500 BC

"Everything is very simple in war,
but the simplest thing is difficult."

Carl von Clausewitz, 1831

The technology of war has advanced to such a state that modern war moves very quickly. Combat vehicles move cross-country at 50 miles an hour; attack helicopters arrive on target at 150 miles an hour; close air support flies at 400 miles an hour. Because of the speed of the chariots of war, the operations and planning for war must be equally swift. To apply these war machines, the planning must be accurate, timely, and forward looking. Every chance to exploit the advantage of speed must be sought out and maximized.

The operational planner has significant responsibility in seeking the chance to exploit current military technology to its fullest. In the conduct of campaign or major operations planning, the planner must compose the battle to defeat the enemy as rapidly as possible. He does this by seeking the points within the area of operations where friendly power can be applied against enemy vulnerabilities. How does the operational planner compose the battle to seek these points? Once uncovered, how are they attacked by friendly forces? This study concerns the application of power through the use of pivots of maneuver to reach the enemy's vulnerability.

Based on current doctrine and published articles, there should be an operational relationship among centers of gravity, decisive points, and

pivots of maneuver for the operational planner. What do they represent in terms of exploiting the enemy's vulnerabilities? Can they be linked together to form a road map of sorts that leads to the conditions of victory? This study analyses these terms and attempts to establish a framework for operational thinking. It also attempts to establish the validity of the concept of pivots of maneuver as a tool for operational planning.

This study is divided into six sections. After the introduction, the second section examines what the classical theorists Jomini and Clausewitz and the modern theorists Triandafillov, Fuller, and Tukhachevskiy have said about these terms and how they apply to operational art. This will establish the theoretical basis for the study's evaluation criteria. The third section examines historical examples of the use of pivots of maneuver to attack enemy vulnerabilities. Ulysses Grant's 1864 *Wilderness Campaign from the American Civil War*, the Allies' *Operation Market-Garden* and reaction to the Ardennes Offensive from the Second World War, and Douglas MacArthur's Inchon/Pusan Breakout operations will be examined to aid in the validation of the theoretical criteria. Section Four examines the current doctrinal basis for the concepts and how they are integrated into doctrine and practice. Section Five attempts to outline the challenges to be faced by the Army in the years ahead. It will indicate where potential doctrinal and conceptual shortfalls exist and suggest possible solutions. The last section will summarize the conclusions and provide implications for operational planners of today.

SECTION TWO - THEORY

Because warfare has evolved from the single, decisive battle of Frederick the Great to the extended, empty battlefield of Saudi Arabia, Kuwait, and Iraq, how do modern generals and strategists control a war? How do they go about orchestrating and composing their forces for success? In order to employ all of the forces available, there must be some sort of framework by which the available assets are applied to achieve the desired conditions of victory. Yet what that framework looks like and how it is shaped remains a matter of great debate. Should certain concepts, such as a center of gravity or a decisive point, be included in the framework? If so, how are they arranged to achieve the conditions of victory? The answer for the US Army lies as much in the writings of century-old theorists as in the contemporary thought of modern officers.

Baron Antoine Henri de Jomini was one of the first theorists to codify a method for warfighting. Among his many prescriptions was a concept he named decisive points. For Jomini, there were several different types of points, all relating to a method and framework for massing forces and waging war.

A geographical strategic point, according to Jomini, related to almost every point within a theater of war that had any sort of military value, for whatever reason. A subset of these points were decisive geographic points. These points gave the holder control of very influential terrain: "the junction of several valleys and of the center of the chief lines of communication." Another key point in Jomini's concepts was the strategic

point of maneuver. This concept received its "value from the relations [it bears] to the positions of the masses of the hostile troops and to the enterprises likely to be directed against them."¹

Jomini went on to describe another concept, decisive strategic points, as having importance "constant and immense" and were "capable of exercising a marked influence either upon the result of a campaign or upon a single enterprise." His decisive points of maneuver were generally found on the flanks of an enemy, while the objective points of maneuver were related to the actual situation and disposition of the enemy.²

All of Jomini's points relate to his interpretation of war as a science. They describe an almost geometrical framework for the conduct of war. Though not exactly geometrical, the theoretical use of these terms do indicate a definite framework for planning. Geographical strategic points and decisive geographic points do relate to certain bits of terrain that are more important than others. They also relate to terrain that is important because the enemy is near it or because the terrain dominates some portion of the enemy's position. Strategic points of maneuver and objective points of maneuver relate to the opposing positions of friendly and enemy forces. These points of maneuver are not always fixed, rather, they hold value based on terrain as well as troop disposition.

The theoretical value of Jomini's points is based on the focus it gives a commander. The various decisive points indicate to the commander where

¹Antoine Jomini, The Art of War, ed. J. D. Hittle (1987), 466-467.

²Jomini, 467-468. This short presentation of Jomini's decisive points is not meant to be an exhaustive analysis. Rather, it is designed to show the quantity and diversity of his concept of decisive points.

he should focus his effort and mass his forces. Jomini mentioned flanks as a possible decisive point of maneuver. An astute commander, recognizing how to strike the enemy's flank with massed force, uses this concept to his advantage. The objective or strategic point of maneuver gives the commander who strikes or dominates it the advantage over his enemy; the enemy can do nothing but surrender, retreat, or fight a battle already lost.

Jomini's drawback is in the scope of his writing. His focus was limited to a single battle or to a campaign that ended with a single battle. What of continuous war and a multi-battle campaign? Here, the theoretician Carl von Clausewitz provided an expansion of the decisive point concept and gave a broader focus to an enemy's defeat through the concept of a center of gravity.

Clausewitz did not attach as much importance to decisive points as did Jomini. Instead a decisive point was where forces achieved "relative superiority" against an enemy; that is, "the skillful concentration of superior strength at the decisive point."³ He did not place a great deal of reliance on the geometrical functions of war; there was no particular formula for success. Though Clausewitz acknowledged the existence of decisive points, his greatest contribution was the concept of a center of gravity.

The center of gravity, according to Clausewitz, is "where the mass is concentrated most densely."⁴ It is the focal point for all of the efforts of a commander; striking it successfully will almost certainly defeat an enemy.

³Carl von Clausewitz, On War, eds. Michael Howard and Peter Paret (1964 + 196-197).

⁴Clausewitz, 485.

The real questions, however, are "What is the center of gravity?" and "How is it best attacked?" Clausewitz gave several examples of centers of gravity. A nation's army, its capital, an ally's army, public opinion, leaders, and "the community of interest" were all examples of centers of gravity. Clausewitz acknowledged, "It is against these that our energies should be directed."⁵ The question remains, "How?"

With a center of gravity successfully identified, Clausewitz explained that there were ways of attacking it. Concentration of forces, careful approach marches, and successful tactics will lead to an enemy's defeat. The usefulness of the center of gravity is that it provided a focus for the entire marshalling and distribution of the friendly forces in time and space throughout the theater of war. This focus was the extension of Jomini's concept. There were several decisive points throughout the conduct of a campaign against an enemy. The successful orchestration of friendly forces against these decisive points would lead a commander to the final battle around the enemy's center of gravity. The benefit of using the two concepts together is determined by the focus of the two theoreticians. By applying the principles of Jomini, one arrives at tactical victories, by applying the concepts of Clausewitz, one links the tactical victories together in a campaign against an enemy's center of gravity. The places where these linkages occur are pivots of maneuver.

The term pivots of maneuver was originally coined by Jomini and used in relation to places where bodies of troops remained, guarding a key place

⁵Clausewitz, 596

of terrain.⁶ The term lost its significance as the technology of war progressed, but the concept was revived as twentieth century theorists proposed new concepts of mechanized warfare. The first major theorist to expound on this new type of warfare was the Soviet general, V. Triandafillov.

The advent of mechanization, especially the tank, provided new challenges for modern leaders. How could these new pieces of equipment be best used on the battlefield? What advantage did they provide to the army? Triandafillov attempted to answer these questions with his theory of "successive operations." These operations were designed, "employing a series of crushing blows," to defeat successive elements of an enemy's army throughout the depth of the theater of war.⁷ Using the First World War, the Russian Civil War, and the Soviet-Polish War as his base cases, he attempted to predict how future wars could, and should, be waged. Though he did not specifically mention the concept of pivots of maneuver, his description of successive operations leads to the same conclusions.

Triandafillov recognized that warfare had evolved to a higher level. He saw that armies could conduct major operations not only once, but several times in a campaign. The key was an effective resupply system that provided the sustainment necessary to keep the army fighting and moving. Identifying objectives in depth assisted the commander in directing not only

⁶Jomini, 471.

⁷V. Triandafillov, Nature of the Operations of Modern Armies, trans. William A. Burhans (1986): 156-158.

his army, but also his support base. The combination of sustainment and maneuver were more critical with the new equipment.⁵

For Triandafillov, operational maneuver became the key to defeating an enemy. His base of experience showed million-man armies, a nation on a war-economy, and new, more destructive, mechanized equipment. These things indicated to Triandafillov that future operations had to be planned to attack the enemy with enough force to defeat the front line troops. Yet, because of the size and power of the enemy, enough residual force had to be retained to keep moving into the enemy's depth before sufficient reserves could be committed to seal the penetration. Without this combination, any operation would deteriorate into the repetitive frontal assaults and trench lines of World War I.⁹ With this combination, friendly forces would successively encounter and defeat portions of the enemy's force. This would eventually lead to victory.

Herein lies one of the benefits of Triandafillov. His writings produced a theory that acknowledged Jomini's requirement to attack the enemy at a decisive point. Further, he endorsed Clausewitz by advocating an attack against the enemy's armed forces as the only way to achieve victory. Triandafillov's theoretical advancement came from the addition of the conduct of war in depth; the preparation and execution of offensives designed not only to penetrate the front lines, but also to secure successive objectives deep in the enemy's rear.¹⁰ He recognized that successive

⁵Triandafillov, 158

⁹Triandafillov, 167

¹⁰Triandafillov, 133-134; Condoleezza Rice, "The Making of Soviet Strategy," Makers of Modern Strategy, ed. Peter Peret (1986): 664

operations established and gained momentum as they penetrated into the enemy's rear area.

Mechanization had changed the requirements of war. Triandafillov was one of the first to advocate the exploitation of the new technology. Using trucks and railroads, his armies could carry the war deep into an enemy's territory. Trucks can move supplies and other sustainment up to 100 kilometers from the sustainment base; captured railroads extend this service even more. This all serves to extend the ability to plan and conduct operations continuously for weeks at a time and maintain the momentum of successive operations.¹¹

These theorists viewed war as a marshalling of a nation's resources and the successive focus of them on the defeat, over a period of time, of an enemy. However, as technology increased and others pondered the new capabilities and their significance, more theories arose.

A Briton, J.F.C. Fuller, wrote extensively about the advantages of the new mechanized war. Fuller's theory expounded the benefits to be gained by conducting all warfare from the protection of armored vehicles. He believed that such vehicles could penetrate any defensive line and strike at an enemy's communications, lines of support, or supply base. By reversing his idea, armored forces were necessary in the rear areas to protect them from a marauding enemy. Warfare had to be designed to get at the enemy's rear area and support base, while protecting one's own.¹² Fuller expanded Triandafillov's idea by theorizing that an attack on a supply base would not

¹¹Triandafillov, 180-181.

¹²J.F.C. Fuller, Armored Warfare (1951): 33, 47, 98.

only destroy the base, but also might catch and destroy large enemy units. This expansion of the concepts of successive operations aimed at a deep decisive point could produce a significant blow against the enemy's center of gravity.

The destruction of the targets deep in the enemy's rear would lead to a serious disruption of the enemy's deployment at the front. The final theorist examined here defined these operations as imposing your will on the enemy both at the front line and in the rear area through operations that considered all actions, both close and deep, as one operation.¹³

Mikhail Tukhachevskiy combined all of the previous concepts in his writings. His ideas of warfare placed a high degree of coordination between all services to extend the battle into the depth of the theater. Rear operations for him acted as a facilitator for offensive movement after the front line penetration.¹⁴ The creation and support of major operations in the enemy rear comprised a significant portion of Tukhachevskiy's theory. Though small in size, these rear area forces were airborne or armor and acted as pivots for the main part of the army. As friendly forces attacked the enemy front line, rear area forces would disrupt enemy lines of communications, sustainment networks, and delay the movement of reserves. These rear actions would serve to facilitate the movement and momentum of the main body.

In modern terms, Tukhachevskiy's rear area forces secured or neutralized pivots of maneuver for the main body to move around as the

¹³Mikhail Tukhachevskiy, New Problems in Warfare (1982): 7, 44.

¹⁴Tukhachevskiy, 11.

enemy center of gravity was attacked. The important part of his theory is the emphasis on "successively conducted operations constitute separate components . . . of one and the same operation, but dispersed over a great distance . . ."15 This is the key for the use of pivots of maneuver. The distillation of the five theorists views provides criteria for an examination of operations showing the utility of pivots of maneuver.

From Clausewitz's concept of the center of gravity, the idea of massing troops for an operation can be drawn. Getting to the strategic objective is Jomini's concept of a series of decisive points. The evolution of modern warfare draws in Triandafillov's concept of successive operations and Fuller's ideas on the location and use of armored and mechanized forces. Finally, the coordination of close and deep operations is Tukhachevskiy's contribution. What criteria result?

There are five criteria distilled from this analysis. First, the main purpose of a pivot of maneuver is to gain freedom of operational maneuver. The second criterion is the ability to maintain that freedom. Next, the connectivity of the pivots of maneuver across the battlefield results in an advantage. The logistical structure centered on the pivots is the fourth criterion. Last is the benefit gained by synchronizing joint forces around a pivot.

The first criterion is the ability to gain freedom of operational maneuver. The combination of a focus for the tactical battle at the front lines and the subsequent battles in the depth of the theater come from all of the theorists. Collectively, they have set the theoretical groundwork for

¹⁵Tukhachevskiy, 44.

the insertion of airborne or armored forces to a particular point behind enemy lines to cause disorganization. The main army will maneuver towards the inserted forces, absorb them, and continue movement towards the next pivot.

The second criterion relates to the ability to maintain that freedom. As small, mobile forces are inserted behind the main enemy defenses, they will not only disrupt the enemy's defensive plans, but will also delay or divert operational reserves. By creating this havoc in the enemy's rear, in addition to securing a terrain-oriented objective, these small forces enable the main army to penetrate the front lines and move more easily to their support. The main army will establish the momentum for its own movement. Based on enemy contact, the main army will maintain or increase its momentum the deeper it goes into enemy territory. Also, the combination of deep and close attack will force the enemy to react to pressure in two directions. This allows the operational main effort to move against less than the maximum enemy force.

The massing idea of the center of gravity provides the third criterion: the successive concentration of force against the pivots of maneuver and their connectivity. Once established, the pivots become a pathway for the advancing main army. By having advance forces secure each pivot in sufficient strength, the main army sets its own tempo as it moves from pivot to pivot. The securing and subsequent assimilation of each pivot gives the main army a "slingshot" advantage as it moves deeper and deeper into enemy territory; the main army is opposed by fewer and more disorganized enemy forces and can thus move faster and faster.

The next criterion focuses on the advantage given to the logistical planner by the pivots of maneuver. The pivots establish a logistical framework and support requirement for the operational sustainer to plan around. The pivots show movement of advance forces that must be equipped to survive alone and unaided for a certain period of time in the enemy's rear. The main army establishes a direction of movement as it moves towards each pivot; this provides a secure corridor for the logistical assets of the army. Further the identification of the main effort at each pivot establishes a priority of support as forces move away from or are assimilated into the main army.

Finally, the theorists establish the implications for the combination of all services in moving around pivots of maneuver. The pivot becomes a focus of operations not only for ground forces, but for air forces as well. Tukhachevskiy wrote of the coordination of the air and ground forces deep against rear areas. That need for coordination is no different today. In certain theaters of war, naval and marine forces may also be involved in operational planning.

There appears to be some utility in the concept of pivots of maneuver. Theoretically, the orientation and maneuver of friendly forces must come from an identification of an objective. The need to orchestrate all available forces has existed for centuries; successive operations into the depths of enemy territory has been the key for modern generals. The method of the orchestrating and linking friendly forces revolves around enemy-held terrain or enemy organizations that provide the focus for friendly forces at different stages of the operation. These pieces of terrain or enemy

formations serve as pivots for friendly forces as they maneuver towards the operational objective. The next section addresses the historical application of these criteria.

SECTION THREE - HISTORICAL EXAMPLES

For centuries, generals have had to orchestrate their forces to defeat enemies. Though many examples exist of successful orchestrations, this study will focus on several operations that show the advantage of operational maneuver. During the American Civil War, Union Lieutenant General Ulysses S. Grant directed the 1864 Campaigns against the Confederate forces throughout the Southern States. Eighty years later, the Allies envisioned Operation *Market-Garden* as a similar operational maneuver against the German forces in Belgium. Later the same year, the Allies reacted to the German counteroffensive in the Ardennes. Almost ten years later General Douglas MacArthur gained the operational advantage he sought with the Inchon/Pusan operations. Through all of these operations, would the concept of pivots of maneuver been a helpful framework to establish operational maneuver?

Some campaigns of the American Civil War showed the glimmering of operational art. One of these campaigns Grant's 1864 Wilderness Campaign. Recently appointed as General-in-Chief of all Union forces, Grant sought a way to defeat the Confederate forces arrayed against the Union. Though he clearly had in mind the necessity "... to hammer continuously against the armed force of the enemy and his resources until ... there should be nothing

left to him . . .," the eastern Union army, Major General George Meade's Army of the Potomac, still had to come to grips with Confederate General Robert Lee's Army of Northern Virginia in open combat. The Army of the Potomac responded to Grant's orders and, on May 4, 1864, launched south across the Rapidan River into an area known as the Wilderness.¹⁶

Grant had established Lee's army as Meade's objective: "... wherever Lee went he [Meade] would go also." With Lee's army as the center of gravity in the Confederate east, Grant and Meade needed a way to force a battle. In conjunction with Major General Benjamin Butler's Army of the James, Grant hoped to draw Lee into battle somewhere south of the Wilderness. Lee did not cooperate and sought to neutralize Union numbers by contesting their advance through the Wilderness.¹⁷

The Union advance became a series of vicious tactical battles that raged over the few open fields and crossroads throughout the forested tract. Grant needed to do something to restore the freedom of maneuver and establish his momentum. He maintained his earlier focus of drawing Lee into open battle and shifted south towards Butler's army and open ground. As the slow infantry disengaged from combat, the Union cavalry sped southward towards Spotsylvania, a vital crossroads. Orders were misread,

¹⁶Grant to Edwin M. Stanton, 22 July 1865, The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies (128 volumes, 1880-1901) Series 1, Volume 46, Part 1: 11 (Hereafter cited as OR)

¹⁷Grant to Stanton, 22 July 65, OR, Series 1, Vol. 46, Pt. 1: 14. Evander Law, "From the Wilderness to Cold Harbor" in Robert U. Johnson and Clarence C. Buel, eds., Battles and Leaders of the Civil War (4 volumes, 1956) 4: 122.

units became lost, and poor staff work hampered the executions of Grant's orders. As a result Lee's forces arrived in strength first.¹⁵

For two weeks the armies slugged their way southward around Spotsylvania. Grant again tried to slip around Lee's flank and occupy another crossroads further south at North Anna Creek in an attempt to restore maneuverability. This time no cavalry led the infantry force, the Confederates won the footrace again. Four days of probing and ineffectual assaults led Grant to order Meade around the Confederate flank again. This time the destination was Cold Harbor. In this race, the Union forces reached the crossroads first, but failed to secure the best defensive terrain.¹⁹

Assaults attempting to dislodge the Rebels from their position proved unsuccessful, yet Grant hammered at the Cold Harbor line for two weeks. Finally, he felt the need for maneuver room and shifted Meade's army far to the south, across the James River, to Petersburg. Here, at last, was the vital crossroads and a weak enemy. Unfortunately, the initial assaults failed, the Army of Northern Virginia raced to save the city, and both sides settled into a stalemate. For six weeks, from the beginning of May to the middle of June, Grant and the Army of the Potomac had sought decisive open battle with Lee's Army of Northern Virginia. Though combat occurred many times during those weeks, what was Grant's plan and where did it fail?

Grant's plan was simple enough: defeat Lee. The difficult part was how to grab hold and defeat him. Though not expecting combat in the Wilderness, Grant was forced to react to Lee's initiative and accept the

¹⁵Stephen Starr, *The Union Cavalry in the Civil War* (1961) 2: 93-94.

¹⁹Law: 135-138; Martin T. McMahon, "Cold Harbor" in Robert U. Johnson and Clarence C. Buel, eds., *Battles and Leaders of the Civil War* (4 volumes, 1956) 4: 214-215.

fight. His shift was then for a position of advantage that would force Lee to fight Grant on Union terms. This was nothing more than Grant's desire to gain the freedom to maneuver against Lee and establish a momentum that would lead to Confederate defeat. Unfortunately, for a variety of reasons, Lee moved faster than the Federals and denied Grant that freedom.

As the Union army shifted southward, each set of crossroads was linked to the previous one as well as to the one that followed. Grant's move from position to position relates to his desire to gain, maintain, and exploit freedom to maneuver. Though the Confederates often blocked each movement south, the Union army displaced to maintain their advantage in manpower, firepower, and sustainment. This was not only an attempt to maintain freedom of maneuver, but also demonstrated the connectivity of the separate pivots or crossroads. Each pivot, had it been gained first by the Federals, would have placed the Union army in between Richmond and Lee's army.

A key feature of Grant's plan was the logistical structure centered on the crossroads after the Army of the Potomac moved through the area. Through the Wilderness, then Spotsylvania and Cold Harbor, the wagon trains of the Union army rolled behind the fighting troops to keep them supplied. They used the same road network not only because that was the easiest way to follow friendly forces, but also because that area was clear of Confederates. Once Meade's Army made the leap across the James River, the supply base was completely shifted to the riverline. The Federal Navy then took up the support requirement; a joint flavor was established. The utility

of the crossroads as a focus for logistical support was demonstrated each time.

Though the US Navy played a part in the supply of the Army of the Potomac on the James River, there was little chance for joint synchronization around the pivots inland. But as technology increased, so did the ability to link the efforts of different services together in a cohesive plan. Significant technological improvements were made during the First World War, however it was not until 1944 that air and ground forces had improved enough to link them together for operational maneuver in the Netherlands under the name *Operation Market-Garden*.

By September, 1944, the Allies had retaken most of Italy and almost all of France. Yet, the German Army still proved itself to be a match for the Allies. General Omar Bradley's 12th Army Group threatened the German West Wall defenses along the Franco-German border. The problem in penetrating there related to the length of the supply lines. The Americans had stretched the lines to their limit and could not mass enough supplies, men, and equipment to penetrate in an area that would guarantee the movement rates achieved in France. General Sir Bernard Montgomery's 21st Army Group was in position to seize the Dutch ports and thus relieve the logistical stretch marks created by the Normandy invasion. General Dwight Eisenhower, with the approval of the Combined Chiefs of Staff, released the First Allied Airborne Army from theater reserve for Montgomery's use in the drive north.²⁰

²⁰Russell F. Weigley, *Eisenhower's Lieutenants* (1981): 288-289

The British plan envisioned securing the crossing sites of eight rivers and canals by airborne and glider forces, while ground forces attacked to link-up with them at each of the objectives. The distance for the ground forces was ninety-five kilometers from start-point to final link-up.²¹ The Germans, unfortunately, did not cooperate with the plan and foiled the deepest link-up at Arnhem.

In this example, Montgomery successfully identified the pivots necessary to gain freedom of maneuver -- the crossing sites over the rivers and canals. Had the airborne forces accomplished their missions, the ground forces could have linked-up with them and continued to roll on to each subsequent objective. The freedom to maneuver within the area as well as the establishment of momentum in subsequent areas would have been achieved. Furthermore, each of the pivots was related to the ones preceding and following it, almost in a direct line, the bridges spanned the impediments to swift movement. Successful mission accomplishment would have linked all of the pivots together in one continuous network. Thus, the method to maintain the freedom to maneuver would have been established.

The establishment and maintenance of momentum and the freedom to maneuver, had the airborne troops been successful, would have shown the connectivity of the pivots. Each objective, by itself, meant nothing. But as they were all linked together, they would have carried the British XXX Corps to Arnhem, past the West Wall, and into the Ruhr. The operational effect of linking the objectives sequentially would be far greater than the tactical

²¹Weigley: 291

effect of seizing each crossing site. The focus of the logistical effort in support of the operational effort changed little as a result of the operation. But had the assaults been successful, the potential for expanded operations across a secure zone was great.

Finally, the integration of joint forces was key to the operation. The effect of having the Royal Air Force and the US Army Air Corps operating in conjunction with the Airborne Army nearly provided a decisive edge the Germans might not have been able to overcome. The key was the combination of air forces (operating as troop carriers and providing close air support) and ground forces (both the airborne divisions and the armored corps) to achieve an operational end. This sort of cooperation and coordination became more frequent as the war progressed.

One of the best practitioners of the operational art during World War II was General George S. Patton, Jr. His operational genius, as well as the utility of pivots of maneuver, is seen in Third Army's response to the German Ardennes Offensive. On the 16th of December, 1944, three German Armies launched out of the Ardennes Forest into the First (US) Army. Progress was quick for the Germans, by the 20th they had penetrated nearly twenty miles. Reaction was almost as quick by the Allies as Eisenhower directed Montgomery to contain the penetration to the north and west while Bradley's forces massed to counterattack from the south. Key to Bradley's counterattack was Patton's Third Army.⁴²

Patton's Army was over eighty miles away from the penetration, and in some cases even further. Patton had directed his staff to plan for this

⁴²Weigley 499-500

eventuality and promised to deliver a three division attack into the left, or southern, flank of the penetration in just two days. His divisions were ready to move in short order; the 4th Armored, 26th and 80th Infantry Divisions marched north on December 22d.²³

The key for the operational maneuver was the road network behind Patton's lines. The III and XII Corps were in positions along the West Wall, just across the German border, when the offensive began. With Patton's staff performing the advance planning, III Corps, with its three divisions, was able to pull off line and move north almost immediately. The staff preparation for the march included positioning of supplies at Nancy, Luxembourg City, and Arlon as well as control of the movement through regulating teams and military police. The control of the vital intersections helped the lead divisions, and subsequent units, to arrive at the point of concentration *en masse* and prepared to fight.²⁴

Patton's initial fight was focused on Bastogne and St. Vith. These two towns were important not only for the rescue of friendly troops, but also for the movement of troops and the maintenance of the momentum established by the sudden turn northward. The Germans had early tried to seize both crossroads and were now concentrated, or congested, around the towns. The towns became the focus of effort for both sides. The Germans attempted to concentrate more forces to seize Bastogne and were forced to concentrate around St. Vith to get through the area. The Allies quickly assessed the importance of the towns and held both as long as possible

²³Weigley 500-501; Charles B. MacDonald, A Time for Trumpets (1984), 413-421.

²⁴MacDonald: 514-515

Ultimately Bastogne held and was relieved by the Third Army; St. Vith defenders delayed the German advance for six days.²⁵

This historical example shows the utility of pivots of maneuver. Both III Corps and XII Corps enjoyed the freedom to maneuver to the Bulge because of the control of the vital pivots at Nancy, Luxembourg City, and Arlon. The Third Army did not have a serious threat to its freedom to maneuver, but the logistical focus centered on the pivots helped maintain the freedom and momentum. Furthermore, each of the pivots was related to the others as forces flowed through them en route to battle. The focus of XIX Tactical Air Command, in support of Patton's Army, was on the relief effort at Bastogne; the integration of air and ground forces sought to deny the Germans the ability to move, while maintaining that ability for the Allies. Taken together, all of the points indicate how well Patton and his staff integrated pivots of maneuver into their plan to respond to the German offensive.

The American military went into a steep decline after World War I. Overall numbers declined, equipment was not upgraded, and military thought stagnated. Perhaps one of the more important soldiers in whom thought and theory were vital was the Far Eastern Commander, General Douglas MacArthur. He developed one of the boldest plans to defeat attacking enemy forces in his *Operation Chromite*, the invasion of Inchon, Korea.

In June, 1950, North Korean troops invaded South Korea. They quickly rolled over the unprepared and ill-equipped South Koreans; within a month, only a small perimeter along the Naktong River remained under South Korean

²⁵MacDonald: 481-487.

control. MacArthur, as Commander-in-Chief of US and United Nations forces, knew he needed to cut the supply lines flowing from the north in order to drive back and defeat the North Koreans. Though initially unable to do this, because of the rapid South Korean retreat, the operation finally took form in early September.

The focus of the operation was to break the logistical back of the North Korean forces which were pressing in on the Pusan perimeter. As MacArthur himself wrote, " By seizing Seoul I would completely paralyze the enemy's supply system -- coming and going. This in turn will paralyze the fighting power of the troops that now face [Lieut. Gen. Walton H.] Walker [in the Pusan perimeter]."²⁶ Concurrent with the Inchon landing, the forces inside the Pusan perimeter would attack north to link-up with the Inchon forces.

Since much of the Korean landscape was mountainous, the critical features for the UN forces were the few road junctions and river crossing sites. Inchon and, ultimately, Seoul were the key cities behind enemy lines. Waegwan, Choch'iwon, and Osan were the pivots that the Pusan forces would have to seize to accomplish the link-up.

The landing at Inchon took place on 15 September; the 1st Marine and 7th Infantry divisions performed superbly as tactical objectives fell rapidly. Within two weeks, Seoul was recaptured and the government of Syngman Rhee was restored. Meanwhile, the Pusan forces broke through the now-defending North Koreans near Taegu and rapidly seized the vital

²⁶D. Clayton James, The Years of MacArthur, Volume III, Triumph and Disaster, 1945-1964 (1985): 470

crossroads. The link-up with the Inchon forces occurred on 27 September.²⁷ Effective, organized North Korean resistance ceased to exist a few days later.

MacArthur accomplished a great deal by his bold move against Inchon. He correctly assessed the importance of the Inchon/Seoul area for the North Koreans. With that area as a pivot of maneuver, MacArthur was able to unhinge the attacking enemy formations over 150 miles away. This, in turn, helped establish Waegwan, Choch'iwon, and Osan as pivots for the link-up force advancing north. Centered around these pivots were the North Korean forces. Seizure of the pivots was almost tantamount with the defeat of the enemy. Though some enemy forces retreated from the Pusan area, they were later captured around Seoul.

Once again, the operational envelopment and breakout of Inchon and Pusan serve to reinforce the theoretical criteria. The ability to gain freedom of maneuver was achieved as MacArthur landed the X Corps at Inchon and the Eighth Army began its breakout. The attention on the cities of Seoul, Waegwan, Choch'iwon, and Osan helped to maintain the freedom of maneuver as the two UN forces converged. The momentum gained as the two forces each penetrated North Korean lines increased as they went farther past the main line of the defenders. Again, the pivots were related to each other and provided the necessary focus and objectives as the forces converged. Logistically, both Eighth Army and X Corps needed the pivots to continue pushing supplies to the frontline troops; without them, resupply would not have gotten through.

²⁷James: 476-483.

The synchronization of naval and air forces was a result of the UN forces' center of gravity focused on the pivots. The Navy's main task was the support of the Inchon landings. Transportation, supply, and naval gunfire support were provided to establish the pivot at Inchon and Seoul. The Air Force effort, as well as the Navy's carrier based air, focused on X Corps at Inchon and on Eighth Army's lead division as the pivots were attacked and secured. Though no serious naval or air threat existed, the consequence of the joint effort was the rapid seizure of the Inchon and the breakout from the Pusan perimeter.

The foregoing review of historical examples relating to the concept of pivots of maneuver is necessarily brief. However, the conclusion of this assessment is clear; the concept of pivots of maneuver is valid. In any operation, especially those involving large bodies of troops, the ability to obtain and maintain the freedom of maneuver is crucial. This ability allows the commander to move his forces around the battlefield as necessary to achieve the mass required at the decisive point. Freedom of maneuver also gives a momentum to the forces as they penetrate enemy territory. U. S. Grant tried to achieve this freedom in Virginia as he moved around Lee's flank. Montgomery used the added feature of airborne troops to secure the pivots as he attempted a similar flanking move around the West Wall. Patton had the freedom to maneuver and maintained it through the use of his support troops to expedite movement. Finally, MacArthur had the freedom to maneuver based on the positioning of his forces and maintained it through the constant pressure he kept on the Koreans. Momentum was key in the last two examples.

A benefit of identifying pivots of maneuver is the focus the pivots provide to the command. The control of the pivots becomes a main effort for the forces as the campaign or major operation is composed and orchestrated. The pivots are linked together to form a framework of objectives for the force as it moves on the battlefield. Grant's framework was based on the relationship of his cavalry to the main body of the Army of the Potomac. Montgomery established a framework around the movement and objectives of the First Allied Airborne Army and the XXX Corps; Patton kept the focus of his pivots within his Third Army. MacArthur developed his framework based on the positioning of the X Corps and Eighth Army.

A logistical structure can be based on the framework established by the pivots. Though this study does not provide an in-depth analysis of the related concept of logistical pivots of maneuver, the benefit of basing the logistical network on the framework established by the pivots of maneuver is evident. The pivots will not only indicate the main effort of a force, they will also provide a relatively secure area for the logistical network to operate in. With maneuver forces moving around the pivots, any enemy in the area will be attacked and destroyed.

Finally, the pivots of maneuver are a focus for the synchronization of joint forces. Grant used the Navy to keep the Army of the Potomac supplied after the shift to operations below the James River. Montgomery needed the Royal Air Force and the U. S. Army Air Corps to move his airborne troops into position. Patton also relied on the fighters and bombers of the XIX Tactical Air Command to provide his soldiers the air cover they needed to move and fight. Most importantly, MacArthur needed both the Navy and the Air Force

to make the Inchon landings as well as the breakout from Pusan. The pivots of maneuver provided joint planners a focus for their operations in support of ground maneuver. This synchronization, in turn, furnished the operational commander with the total focus of all his forces to the common goal and ultimate victory.

SECTION FOUR - ANALYSIS OF CURRENT CAPABILITIES

The examination of theory in Section Two resulted in the establishment of several criteria concerning the validity of pivots of maneuver. Theoretically, the pivots provide freedom of maneuver to a commander. They also help him maintain freedom of maneuver and momentum within his area of operations as forces are moved around the battlefield. Properly orchestrated, the pivots are connected to form a rough framework for the theater or area of operations. The pivots provide a focus for the logistical network necessary to support operations. Finally, joint services can be synchronized around the pivots to support the operational commander.

The historical analysis in Section Three assessed several campaigns and major operations in terms of the above criteria. The result was that the criteria have some validity in actual practice; commanders can use the concept to their advantage to focus the mass and main effort of their forces. With the theoretical and historical evaluations as a basis, how does current doctrine assess the concept of pivots of maneuver?

Current U. S. Army doctrinal thought on operational planning and the design of the battlefield resides in several manuals. FM 100-5, Operations is perhaps the keystone of the manuals. It describes the relationship of strategy, operations, and tactics in terms of AirLand Battle. It also devotes a portion of one chapter to operational planning. Using the tenets of AirLand Battle as a basis for discussion, Chapter 3 of FM 100-5 describes the requirement to link all action within the theater to the main effort of defeating the enemy. It also mentions that "ground, air, and naval operations are synchronized to support each other and to fulfill the requirements of the overall . . . plan." Phrases such as "coordinated movement," "coordination of actions," and "visualize the theater of operations" indicate the conceptual essence of pivots of maneuver, but do not include the use of the term.²⁵

Though "center of gravity" is mentioned, its discussion is broad and superficial. The concept is explained and examples are given, but no clear cut method of attacking an enemy center of gravity is explained. Generalities about being the "sources of physical strength or psychological balance" help the operational planner in broad terms; what should he do about them, though?²⁹

Altogether, FM 100-5 does not indicate any attempt to incorporate the pivot of maneuver concept. It provides broad guidance on the planning and execution of operations and tactics, but does not address in any detail how to do them. Considering that the focus of the entire manual is to imbue

²⁵US Army, FM 100-5, Operations (1986): 27-30.

²⁹FM 100-5, Operations: 29

the tenets of AirLand Battle throughout the Army, this lack of detail may be appropriate.

FM 100-6, Large Unit Operations is the next manual considered. It focuses on campaign planning at Echelons Above Corps; two of its chapters address the requirements for operational planning. Chapter 3, "Elements of Operational Design", focuses on the composition and orchestration of forces in a theater to create the conditions of victory. The important elements of this chapter are the requirements to identify the conditions of success, determine how to sequence operations, and the application of resources to that sequence. These requirements are called the operational design.³⁰ Chapter 4, "Campaigns", focuses on the structure of campaign planning, it provides the physical how-to that complements the concepts of Chapter 3.

Taken together, these chapters provide a leap forward from FM 100-5. They discuss the conceptual necessity to "... visualize a preferred sequence of operations..." and to estimate branches and sequels to the plan. Furthermore, discussions of major operational functions in Chapter 3 drive the operational planner to consider those points or areas that will provide him with the most flexibility in dealing with the enemy. The effect of using intelligence, maneuver, fires, sustainment, and deception gives the operational planner a framework to organize his forces against an enemy. The nuts and bolts of the campaign planning chapter gives him a method of

³⁰US Army, FM 100-6, Large Unit Operations (Coordinating Draft 1987): 3-1

expressing the plan in a manner understandable to the subordinate commanders.³¹

The total effect of FM 100-6 is to give a method for the operational planner to do his job. How to analyze ways of attacking the enemy, methods of organizing all available forces, and how major operations should flow are a result of planning. However, pivots of maneuver are not discussed. Many of the central points of the concept, such as providing freedom of maneuver and maintaining freedom, connectivity, logistical framework, and joint synchronization, are addressed in one form or another. In the case of this manual, the concept could provide a more tangible framework to the operational design than is suggested in Chapters 3 and 4.

The final manual to be considered is FM 100-15, Corps Operations. Since the corps is the unit that translates strategic guidance to tactical execution, this manual is assessed in terms of being the lowest practitioner of operational art.³² Though it is conceded that the focus of the corps manual should be on the execution of tactical operations, there should be some portion of the manual devoted to the prospect of being the operational headquarters for planning and executing major operations. There is scant mention of the possibility of this happening. Chapter 1 does identify the possibility, but places it under contingency operations planning. Chapter 8 discusses contingency operations and gives a focus on operational

³¹FM 100-6, Large Unit Operations: 3-4, 3-7 to 3-24, 4-1 to 4-12. A more detailed methodology for campaign planning is contained in the Mendel and Banks Campaign Planning Study from the Strategic Studies Institute, U. S. Army War College.

³²This is by no means a linkage of unit size to operational art. The intent is to assess the doctrine for a likely practitioner of operational art and not to define the execution of operations by unit.

considerations for the low- to mid-intensity contingency operation. Chapters 2 through 7 contain information and details on the standard decision making process, conduct of offensive and defensive operations, and command and control functions.

Once again, the concept of pivots of maneuver as a tool to compose and orchestrate the battlefield is absent. The manual focuses on the tactical aspects of the corps, but fails to properly address the possibility of an operational focus for corps employment. The inclusion of a discussion on the concept would aid not only contingency planning, but would enhance the understanding of tactical mission assignment. The closest the manual comes to acknowledging the necessity for operational planning is the requirement for reading FM 100-6 contained at the end of the manual.³³

This analysis of current doctrine on centers of gravity and pivots of maneuver would not be complete without looking at what the Army writes about itself in periodicals.³⁴ The most appropriate professional journal that discusses operational art is *Military Review*. Over the course of two years, many articles have been published dealing with operational art and its relationship to strategy and tactics. In fact, one entire issue was devoted to articles on operational art.

The views of the articles is consistent with the doctrine expressed in the manuals cited above. Roughly, the operational design is an effective tool in deciding how to organize operational planning. None of the articles

³³US Army, FM 100-15, Corps Operations (1989): References-1.

³⁴Any discussion of decisive points is absent from the cited manuals. This is probably due not only to the limited focus of decisive points, but also to the lower, tactical view espoused by Jomini.

describe how to go about orchestrating the components of the battlefield into an effective framework to achieve the conditions for victory. Rather, they discuss the use of operational intelligence, fires, command and control, maneuver, and support.³⁵ The key difference between the two is in scope. The latter discussions focus on the elements of operational art, but do not weave them together. Discussion of a framework would focus on making them work together to establish a momentum that would achieve the conditions for victory.

This examination of current doctrine about centers of gravity and pivots of maneuver reveal that the basic concepts are thoroughly grounded in contemporary beliefs and doctrine. The desire to link them together in some sort of continuous and coherent manner also exists. The current campaign planning doctrine calls for the identification and focus on the enemy and friendly centers of gravity, but gives no method to attack or protect them. The only doctrine that comes close to linking the concepts effectively is contained in FM 100-6. No other current doctrine or published article uses the concept of pivots of maneuver to link center of gravity and decisive point together as a method of operationally attacking and defeating an enemy.

The utility of the concept is apparent in its ability to provide a focus for the operational planner. It also provides a focus for the main effort of the operational commander and his subordinate component commanders. As

³⁵The issue is Military Review, September, 1990 (Volume LXX, Number 9). Articles referenced include those by Clayton R. Newell, James J. Schneider, Michael D. Krause, and Crosbie E. Saint. The article by Russell E. Wiegley gives a historical example of the utility of linking the decisive points within an operation to create pivots of maneuver.

warfare becomes swifter and more technologically precise, the desire to use some sort of operational framework to overlay available resources will become more acute. The next topic to be examined is how the future seems today.

SECTION FIVE -- FUTURE CHALLENGES

Current public, political, and military euphoria over operations in Southwest Asia is high. Technology, organization, and joint and combined operations produced very quick and decisive results. But even as Central Command was directing operations in the Kuwaiti theater of operations, budgets for the outyears of 1992-95 were being submitted to Congress. The proposed budgets continue to show a decline in military manpower, equipment, and expenditures. As a result, future Army leaders will have fewer and smaller units to employ in situations similar to *Operations Desert Shield* or *Desert Storm*. This, in turn, will require them to employ the units in a very sophisticated, synchronized, joint operation. Smaller and fewer forces will also force the US to fight combined with other nations if the magnitude of *Desert Storm* forces are required again.

The current AirLand Battle doctrine supports the present and near-term future force. Its focus on deep, close, and rear battle is appropriate for the number and types of weapons systems in service today. But discussions of AirLand Battle Future as a follow-on doctrine requires a different look at how future systems will be integrated. The most

important feature of the emerging doctrine is its evolutionary, as opposed to revolutionary, nature, it is not designed to change the Army radically.

AirLand Battle Future is currently thought of in four phases: detection-preparation, establishing conditions for decisive operations, decisive operations, and reconstitution. The operational focus of the first two phases is the method with which the enemy is set-up for defeat. Operations conducted during the detection-preparation phase orient on how the enemy is preparing for combat. This operation helps to formulate the conditions for the decisive action. The next phase actually sets the conditions and establishes the momentum for the decisive operation, conducted in the third phase. The last phase, reconstitution, is a logical subsequent action.³⁶

It is the first two phases that require the most structure and control. Where to look for the enemy as well as to channel him into the areas for decisive action will require a more extensive command and control network than the remaining phases. This is due to the focusing efforts of the first phases; the third and fourth phases have pinpointed the enemy and are moving where he is not. To look for the enemy and to channel him will require some sort of framework to control the acquisition and targeting mechanisms. This framework, the result of a careful analysis of the theater of operations, could easily be centered on pivots of maneuver.

A problem with the evolutionary nature of AirLand Battle Future doctrine is its very nature; it is difficult to pin down. One of the documents

³⁶Stephen Silvers, Jr., "AirLand Battle Future: The Tactical Battlefield," Military Review (February, 1991) 4-9

that attempts to codify doctrinal thought is FM 100-7, The Army in Theater Operations (Preliminary Draft). It is one of the first Army manuals to provide an "operational level perspective" to Army leaders. It also establishes the linkages necessary for strategy to be tied to tactics through operational art.³⁷

In order for AirLand Battle Future to work, the different phases must be linked with a common thread. FM 100-7 describes that link as the operational commander's responsibility to "sequence operations over a period of time, attaining strategic objectives."³⁸ This is the necessary description of operational art, but it can also serve as a method to conduct operations. The operational commander sequences the actions of his forces over time at a specific objective. The tactical objectives must serve the common goal in order to achieve the operational objective. These tactical objectives should be focused on areas that ultimately give the operational commander the most freedom and momentum. The tactical focus, the sum of tactical objectives, can be termed a pivot of maneuver because of the result it provides to the operational commander: the freedom and momentum to continue operations towards the strategic objective.

Further descriptions of operations within the manual reinforce this point: the necessity to sequence operations around a common, ultimate objective is the key to victory. The manual does not specifically describe the different phases of AirLand Battle Future as mentioned previously, but does indicate their possible value. The emphasis within the manual is on

³⁷US Army, FM 100-7, The Army in Theater Operations (1990) Preface

³⁸FM 100-7, The Army in Theater Operations: 2-3

the requirement for the operational commander to properly assess his objectives, then to organize an operation with the forces available to gain an advantage over the enemy and, eventually, victory. The phases as described above and the operational focus of the manual provide sufficient guidance to the operational commander to allow him to make the necessary decisions in an operation.

Between the AirLand Battle Future phases and the operational design of the battlefield described in FM 100-7, the requirement to orchestrate joint, and possibly combined, forces around a common goal is established. Where does the concept of a pivot of maneuver fit in? The concept remains as a valid element of the phases and design discussed above. The current emerging doctrine concerning AirLand Battle Future establishes the validity and value of the center of gravity and the decisive point. Together these concepts aid the operational commander plan the establishment of objectives and the use of his forces to set the conditions for victory. To tie these concepts together requires the addition of a focus of effort, the pivot of maneuver.

The pivot of maneuver would enhance the understanding of what an operational commander is required to do. The concept would focus the series of tactical actions necessary to achieve an operational objective. Each of the operational objectives can be focused around a pivot of maneuver. Linked together, the operational objectives will achieve the strategic objective. Because of the very nature of operational forces, actions taken to reach the pivots of maneuver would be joint, and possibly combined, actions. The sustainment focus would be on the forces conducting

the tactical actions. Since these forces are already focused towards a pivot of maneuver, the sustainment effort would be turned there also.

This concept, brought down to the level of AirLand Battle Future tactical actions, aids the operational planner. Based on how tactical operations are focused, the campaign plan can be more detailed in its ability to describe sequels to the first operation. The sequels will focus the operational effort on subsequent pivots of maneuver. Branches will serve to bring the tactical operations back on the lines necessary to obtain the use of a pivot of maneuver. The branches will always focus on the attainment of the operational objective at the pivot of maneuver. Obviously, the route to a pivot is not a straight line; there are always several ways to achieve the operational objective.

Current thinking on future doctrine and methods of operating are focused in the right direction. The sequencing of tactical operations to achieve an operational objective provides a focus not only for the tactical commander, but also for the operational commander. The freedom to maneuver, as sequenced by the tactical actions, allows the operational commander to seize his sequentially orchestrated objectives. This tactical and operational focus establishes the freedom of maneuver and helps to maintain momentum as forces are continuously oriented on key objectives. Joint actions are maintained throughout the operation as all services are orchestrated towards the common objective. The logistical and sustainment effort is not dispersed; it remains focused behind the operational objectives and is prepared for the subsequent operations. One of the most glaring

shortfalls in current thinking about future doctrine is the lack of a unifying link for tactics and operations, the pivot of maneuver.

SECTION SIX - CONCLUSIONS AND IMPLICATIONS

The utility of analyzing current thought on future doctrine is to establish a trend for the developing doctrine. The trend is important because it indicates how senior leaders, indeed leaders at all levels, understand the fundamentals of AirLand Battle and its evolutionary follow-on AirLand Battle Future. Much as an operational commander sets his azimuth for the operational objective, so does the corporate Army leadership set its azimuth on the evolutionary doctrine of the future. This study has attempted to establish a guidepost for operational planning.

The guidepost is the utility of pivots of maneuver. The concept can assist the operational planner in viewing the battlefield and the role of joint forces on it. The utility of the concept is examined in terms of theory, historical analysis, current doctrine, and emerging future doctrine.

The theoretical analysis of the concept establishes the criteria upon which the remainder of the study is based. After an examination of the works of the classic theorists Jomini and Clausewitz and the modern theorists Triandafilov, Fuller, and Tukhachevskiy, the following criteria became apparent. First, the pivot of maneuver, as a focus of effort, helped establish the operational freedom to maneuver. The pivot serves as the focus of tactical objectives under the direction of the operational commander. Second, multiple pivots serve to maintain the focus of tactical

effort in subsequent operations and thus maintain the operational freedom to maneuver. Because of this maintenance of operational freedom, the momentum of operations continues to build towards the defined conditions of victory. Third, each of the pivots are connected in a series; taken sequentially, they lead to the operational and strategic objectives. Fourth, the logistical structure and sustainment effort are guided by where the tactical effort is focused as well as the operational plans for subsequent operations. Connecting the tactical and operational focus allows the sustainment planners to orchestrate their assets efficiently. Last, the joint nature of operational warfare is enhanced by the pivots of maneuver. The pivots become the focus of multi-service operations that are linked together to achieve the common operational objective.

A historical analysis of these criteria establishes their validity. The Wilderness Campaign of 1864, *Operation Market-Garden* and the Allied reaction to the Ardennes Offensive of 1944, and the Inchon/Pusan operation all sought to establish the freedom for operational maneuver; some did, others did not. Each operation was planned around gaining the freedom and then maintaining it through successive objectives sequenced in depth. Each of these objectives were related in a continuous pattern. Taken as a whole, the linked objectives sought to achieve decisive victory against the enemy. The focus of logistical and joint operations was on the pivots of maneuver established by the operational commander. All of the effort was focused towards the common goal.

A look at current doctrine showed that, while the general concepts of the pivot of maneuver is there, no unifying body of knowledge establishes a

solid link between tactical and operational objectives. FM 100-6 comes the closest in establishing that link when it describes the successive nature of tactical operations; "visualizing the sequence of operations" is a key phrase for the operational planner. Yet current doctrine does not firmly establish the interdependent nature of operational objectives nor any way of linking them together. This failure to establish a clear, nearly tangible link among operational objectives clouds the theater of operations for the operational planner as he tries to visualize the battlefield.

Finally, the look at emerging thought on future doctrine revealed a closer approach to the pivot of maneuver concept. FM 100-7 very clearly links operational concepts together to form a tenuous framework for operational planning. The pivot of maneuver concept is there in form, though not in name. The greatest benefit of the manual is the step-by-step procedure of linking strategy, operational art, and tactics in a form that can be understood. Current articles about emerging doctrine indicate that senior leaders are aware of the necessity to link tactical operations into an operational objective. The evolutionary nature of this emerging doctrine is such that new concepts, such as pivots of maneuver, can be set forth, discussed, and accepted or abandoned as need be.

The end result of this study is the establishment of the pivot of maneuver concept. It can aid the operational planner in his structuring of the battlefield. If nothing else, the concept serves as a significant part of the battlefield framework and sets a more efficient structure to it. How the operational planner should use the pivot of maneuver beyond that will evolve over time.

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